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FIELDIANA • ZOOLOGY

Published by
CHICAGO NATURAL HISTORY MUSEUM

Volume 44

NOVEMBER 15, 1961

No. 2

Two New Genera of Feather-Wing Beetles From the Eastern United States (Coleoptera: Ptiliidae)

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The feather-wing beetles of the subfamily Nanosellinae, to which the two new genera belong, are the smallest known beetles (Barber, 1924). The Nanosellinae in general live in the spore tubes of shelf fungi of the family Polyporaceae (Barber, 1924; Dybas, 1956; and extensive unpublished data). In this respect, the two new genera described in the present paper are atypical. *Hydnosella globitheca*, new gen. and sp., has been found only on the under surface of woody shelf fungi of the related family Hydnaceae in Indiana. It appears to be narrowly host-restricted to *Steccherinum (Hydnum) ochraceum* (Fr.) S. F. Gray. The other new genus, *Suterella*, has been collected in forest floor litter in Rhode Island, Pennsylvania, Tennessee, and Georgia. It presumably feeds on fungus spores as do other Nanosellinae, but its occurrence in the forest floor and the reduced and attenuated head suggest some unusual feeding relation.

Two well-defined groups comprise the Nanosellinae. In one group, illustrated among described genera by *Nanosella* (= *Mycophagus* sens. Barber, 1924), *Porophila*, and *Cylindrosella*, the median elevation of the mesosternum is typically shaped like an arrow- or spear-head, and the apex is directed posteriorly between the mesocoxae and usually overlaps the metasternum as a thin, barely detectable, laminate process. In the other group, represented by *Throscoptilium* and a number of undescribed genera, the apparent apex of the mesosternal elevation is anterior and the broader posterior portion overlaps the mesocoxae and unites with the metasternum. It may be shaped like a flattened keel that is narrowed in front or broad and

Library of Congress Catalog Card Number: 61-18696

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triangularly produced anteriorly. *Hydnosella* belongs to the first group of genera, represented by *Nanosella*, while *Suterella* clearly belongs to the second.

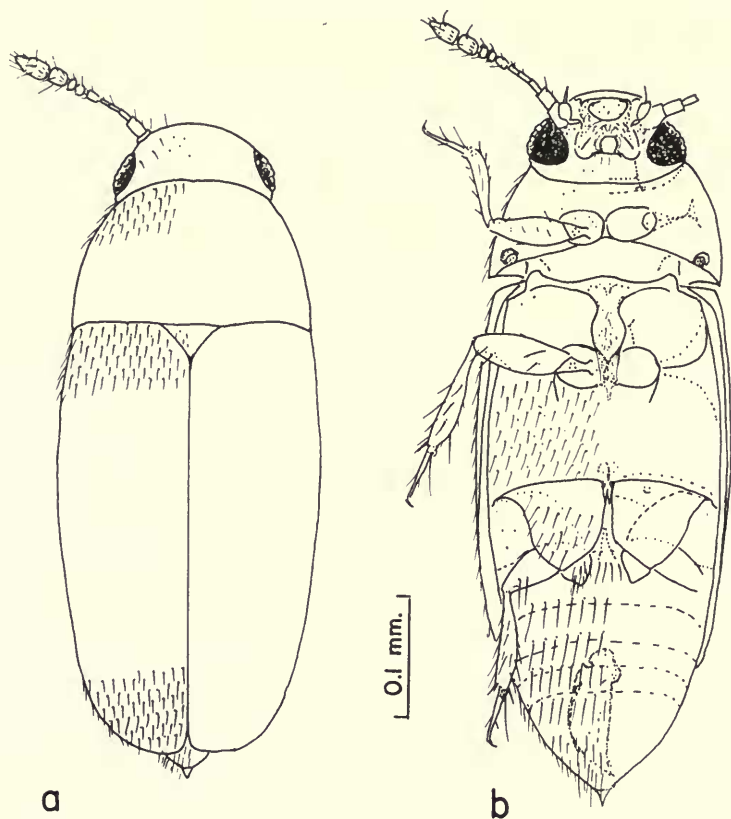


FIG. 6. *Hydnosella globitheca*, new gen. and sp. a, Dorsal view. b, Ventral view (male). Composite drawings.

Hydnosella, new genus. Figures 6, 7.

Type of genus.—*Hydnosella globitheca*, new species.

A genus of Nanosellinae of relatively broad form, with meso-sternal elevation arrowhead-shaped, its apex directed posteriorly; metasternal lines not extending to hind coxae but abbreviated to one-fourth or less of the metasternal length; pygidial spine simple, acute; antennae 10-segmented, segments 3 and 4 subequal, each

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longer than 5; basal angle of pronotum with a sclerotized, cylindrical crypt opening ventrally.

Elongate-oval in form (fig. 6, *a*). Head moderate in size. Eyes large, prominent ventrally. Antennae (fig. 7, *a*) short, 10-segmented; segments 3 and 4 subequal, each longer than segment 5 and each about twice as long as wide.

Pronotum about two-thirds as long as broad, broadest at base, sides evenly rounded to the anterior foramen, which is about two-thirds of the greatest pronotal width.

Elytra each about 3 times as long as broad, not truncate at apex. Wings present.

Mentum with lateral expansions at middle.

Near basal angle of hypomeron, on each side, is a short, cylindrical, heavily sclerotized crypt that opens ventrally. Under oil immersion (970 \times) the opening appears to be covered with a thin, radially striate film or, perhaps, a fringe of microscopic, inwardly pointing setae.

Mesosternal elevation arrowhead-shaped (fig. 6, *b*), very similar in form to that of *Porophila*, its apex overlying the mesocoxae and continued over the metasternum as a barely detectable laminate process (at 430 \times). Mesocoxal acetabula broadly contiguous internally. The mesopleural-metasternal suture shaped as in figure 6, *b*. Metasternum about twice as broad as long; metasternal lines abbreviated, not extending to hind coxae, about one-fourth, or less, as long as the metasternum. Metendosternite small, funnel-shaped, with a prominent ventral keel.

First visible ventral abdominal segment (III) carinate between posterior coxae. Terminal tergite (X) with a terminal (pygidial) spine, which is simple and acute.

Legs (fig. 7, *b-d*) with posterior coxae large, triangularly laminate, covering most of the retracted femur; tarsi long, slender, claws subequal, with an apically thickened seta between.

Male with secondary sexual modifications of the trochanters of the posterior legs (fig. 7, *g*).

Hydnosella globithecra, new species. Figures 6, 7.

Color yellowish, eyes black; dorsal surface covered with pale inclined setae which are very sparse on the head and extremely minute on the scutellum.

Mesosternal elevation with form as in figure 6, *b*. Metasternum clothed with fine pale setae.

Legs with form and chaetotaxy as in figure 7, *b-d*; all the setae pale in color.

Sternite III with 4 long setae at middle of posterior margin; sternites IV-VII each with ca. 20 long setae on posterior margin; sternite VIII closely covered with setae.

Spermatheca as in figure 7, *e*.

Aedeagus as in figure 7, *f*.

Secondary sexual modifications: The trochanter of the posterior leg bears a few (ca. 3) setae in the female (fig. 7, *d*); in the male it is more angulate in form (fig. 7, *g*) and has a dense tuft of setae.

Measurements: Length, ca. 0.55 mm.; width, ca. 0.22 mm.

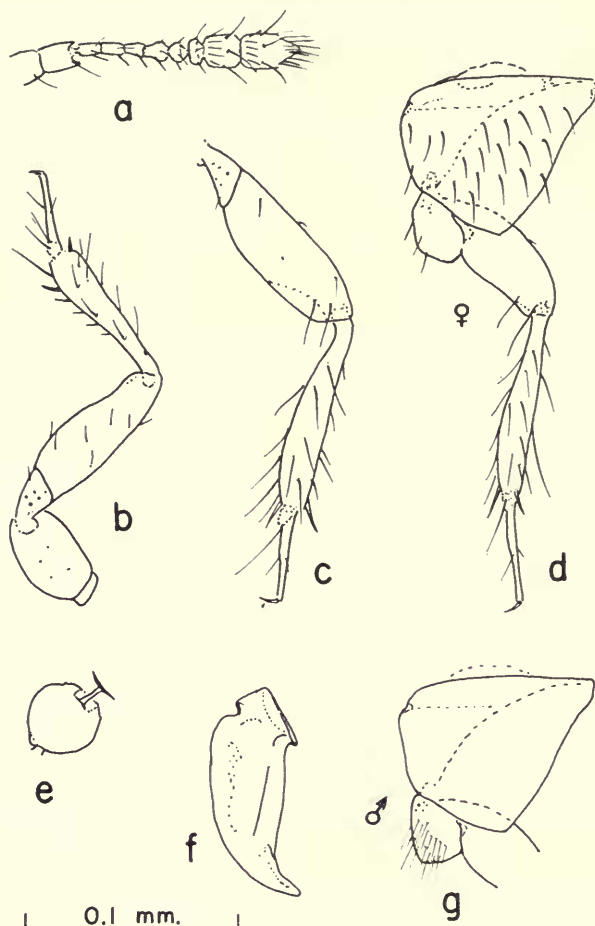


FIG. 7. *Hydnosella globitheca*, new gen. and sp. *a*, Antenna. *b*, Anterior left leg, posterior face. *c*, Middle left leg, anterior face. *d*, Posterior left leg (female), anterior face. *e*, Female spermatheca. *f*, Male aedeagus, ventral view. *g*, Coxal lamina and angulate, setose trochanter of posterior leg of male.

Holotype.—A female, mounted on a microscope slide, from Indiana Dunes State Park, Porter County, Indiana; collected Aug. 6, 1960, by H. S. Dybas from *Steccherinum* (*Hydnum*) *ochraceum* (Fr.) S. F. Gray (det. by J. Stevenson). Holotype and host fungus deposited in the collection of Chicago Natural History Museum.

Allotype.—A male, mounted on a microscope slide, same data as the type.

Paratypes.—Ten specimens (2 males, 1 female on slides), same data as the type; 5 specimens (2 males, 1 female on slides), same locality and host, Sept. 13, 1942; 21 specimens from "Davis Woods," Smith Station, La Porte County, Indiana, collected Sept. 20, 1942, by H. S. Dybas on same host fungus species as type. All in the collection of Chicago Natural History Museum.

Remarks.—The new species has been collected on the under surface of *Steccherinum* (*Hydnum*) *ochraceum*, a woody shelf fungus of the family Hydnaceae, and has not been found on any other fungus in the course of extensive collecting in the Chicago area. The evidence points to narrow host-restriction. The two known localities are rich mesophytic deciduous forests, each containing a well-developed swamp association.

Suterella, new genus. Figures 8, 9.

Type of genus.—*Suterella microcephala*, new species.

A genus of Nanosellinae of elongate-oval form; mesosternal elevation shaped like a flattened keel, narrowed anteriorly; metasternal lines complete; head attenuated and greatly reduced in size to about one-third of greatest pronotal width.

Form elongate-oval (fig. 8, *a*). Head unusual in form, elongate, greatly reduced in size, its width slightly more than one-third the greatest pronotal width. Eyes flattened, enveloping sides of head. Antennae (fig. 9, *a*) short, not much longer than length of head, 10-segmented. Gula absent, as in all Ptiliidae; posterior arms of tentorium of head attached to posterior ventral margin of head capsule; the usual connecting transverse bar not evident.

Pronotum convex, a little broader than long, strongly narrowed to the apical foramen which is about one-third of the greatest pronotal width; disk strongly curved to the anterior margin which partly covers the normally deflexed head, as shown in figure 8, *c* (in fig. 8, *a*, *b*, the head is extended); posterior margin curved, partly covering base of scutellum and elytra.

Scutellum triangular (fig. 8, *a*), in part covered by base of pronotum.

Elytra long, not truncate, minutely dentate at apex. Wings long, slender, the scape lacking a long subapical seta; membrane with conspicuously fewer prominent marginal hairs than in *Porophila* and with only 3 long hairs along the anterior margin immediately distal to the scape.

Prosternum (fig. 8, *b*) short anterior to coxae; coxal acetabula confluent; sides of thorax finely margined ventrally.

Mesosternal elevation a flattened keel, broadest between mesocoxae, form as in figure 8, *b*, its narrowed apex directed anteriorly as in *Throscoptilium*; posteriorly it overlaps the mesocoxae and unites with the metasternum without indication of a suture. Sides of mesosternal elevation sharply defined and undercut. Metasternum broad, produced between the nearly contiguous posterior coxae into an

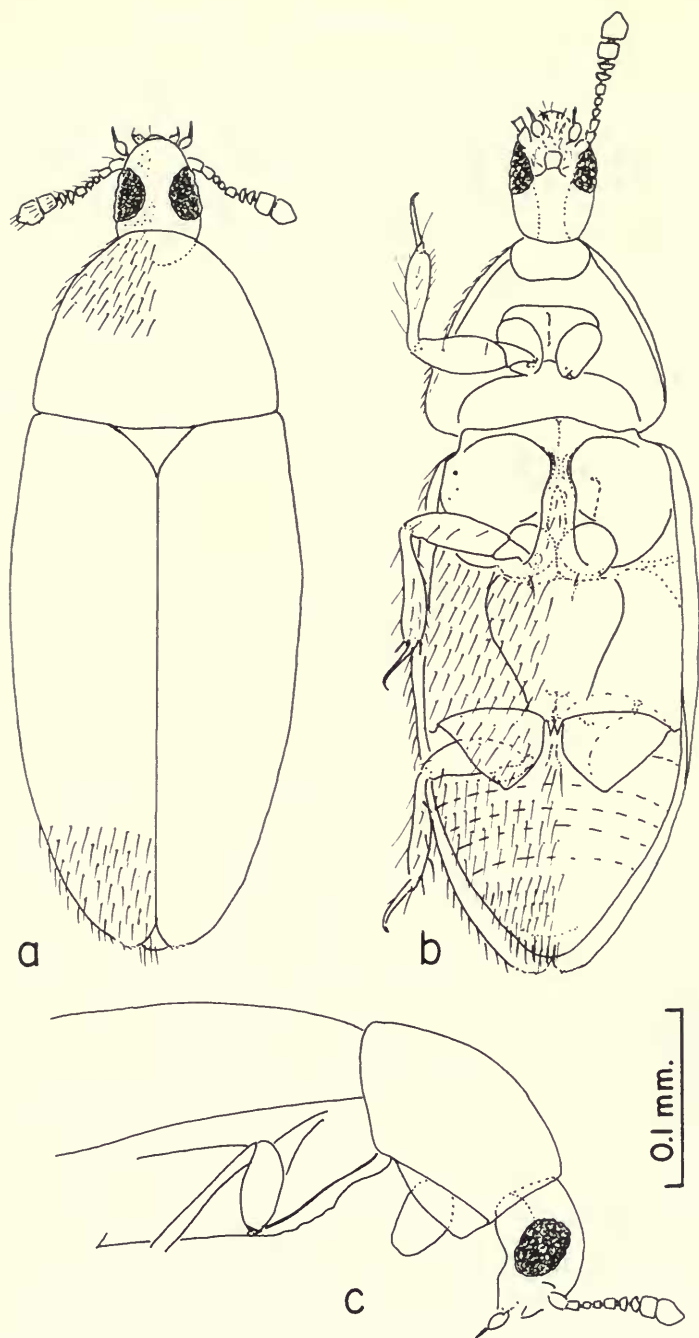


FIG. 8. *Suterella microcephala*, new gen. and sp. a, Dorsal view. b, Ventral view. c, Lateral view. Composite drawings.

acute bifurcate process; disk with the characteristic metasternal lines of the Nanosellinae complete, extending to the hind coxae.

Abdomen covered by the elytra; the terminal spine (pygidial spine) of the last tergite, which is characteristic of other Nanosellinae, is not evident in the slide preparations.

Legs moderately short (fig. 8, *b*). Anterior coxae long, conical; posterior coxae very broadly laminated; tarsi slender, tarsal claws unequal, with a fine hair between; middle tibia with a bifurcate spine at apex on medial edge.

Spermatheca (fig. 9, *b*) saccular, with a sclerotized "pump."

Male aedeagus as in figure 9, *c*.

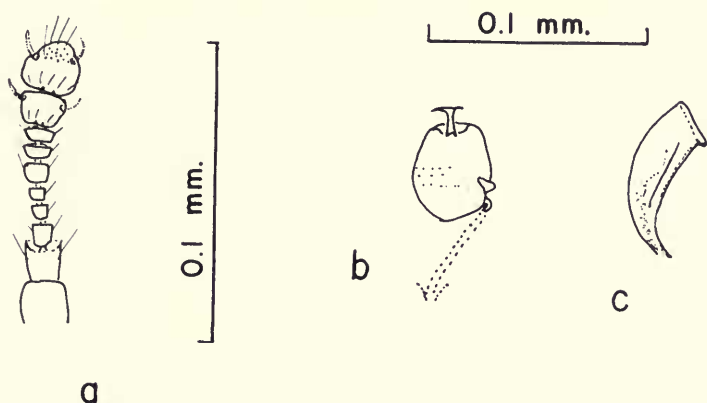


FIG. 9. *Suterella microcephala*, new gen. and sp. *a*, Antenna. *b*, Female spermatheca. *c*, Male aedeagus, ventral view (specimen from Rhode Island).

Remarks.—In addition to *Suterella microcephala*, new species, from the eastern United States, I have seen a single specimen of an undescribed species that seems to be congeneric although the head is not so greatly reduced. The specimen was berlesed from forest floor litter on the slope of Volcan Chiriquí in Panama, at an elevation of 7750 feet.

Suterella microcephala, new species. Figures 8, 9.

Color yellow; head darker; eyes black. The dorsal surface covered with fine, pale, inclined setae. With the characters of the genus; mesosternal carina with conformation as in figure 8, *b*. Spermatheca as in figure 9, *b*. Aedeagus as in figure 9, *c*.

Measurements: Length, 0.4 mm. from apex of pronotum to apex of elytra; width, about 0.16 mm.

Holotype.—A female, mounted on a microscope slide, from Chestnut Ridge, near Youngstown, Westmoreland County, Pennsylvania;

collected July 11, 1961, by Walter Suter, David Reichle, and John Wagner. In the collection of Chicago Natural History Museum. Berlesed from forest floor litter from a well-developed deciduous forest containing rhododendron.

Allotype.—A male, same data as the type. Mounted on a microscope slide.

Paratypes.—Five specimens, same data as the type; 24 specimens, same locality, collected Sept. 16, 1961, by John Wagner, from forest floor litter.

Other specimens.—Five specimens berlesed from leaf-litter from a swamp forest association near Kingston, Washington County, Rhode Island; collected July 4, 1961, by Walter Suter and John Wagner. Four specimens from forest floor litter from the Great Smoky Mountains National Park, Tennessee; collected April 24, 1932, by E. V. Komarek (F. Psota Collection). One specimen berlesed from forest floor litter in a mixed pine and deciduous forest near Pearson, Atkinson County, Georgia; collected Sept. 14, 1959, by Walter Suter and John Wagner. All in the collection of Chicago Natural History Museum.

Remarks.—I am pleased to name this distinctive new genus for Walter Suter of Northwestern University, who, together with John Wagner, has made outstanding collections of feather-wing beetles of eastern North America in a wide variety of micro-habitats.

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